

image substantially increases as its viewing point of observation moves away from its hologram surface which is a reference plane of its image recording. This phenomenon occurs due to a fact that an image shooting distance at the time of shooting a parallax image string to obtain original images, and/or at the time of creating by computer graphics, is maintained as shot in each element hologram that was exposed and recorded on a hologram recording medium, thereby introducing a deviation in its viewing point distance.

In order to prevent such phenomena from occurring, in the holographic stereogram producing device for producing a holographic stereogram, a viewing point conversion processing is performed for correcting a spatial distortion in a reproduced hologram image, for example, by interchanging respective element parallax images in the parallax image string. This viewing point conversion processing is a processing whereby respective element parallax images are interchanged to be reconstructed as modified element parallax images for forming an image in a slit pattern in a parallax direction so that a reproduced image from a recorded image, which was exposed according to the reconstructed element parallax images and recorded on a hologram recording medium, is substantially constantly positioned in proximity to the hologram surface as described above.

The viewing points of the element parallax images having undergone the above-mentioned viewing point conversion processing do not always coincide with the viewing points of the element parallax images that are obtained through the image shooting and/or created by

computer graphics, and in such a case, these ones that have the nearest viewing point thereto are selected. Therefore, the element parallax images that have been reconstructed may become discontinuous thereby impairing
5 quality of its recorded image. By the way, such a discontinuous phenomenon is referred to as a "jaggy" phenomenon.

Hence, in a case where a printed matter of a holographic stereogram or the like is generated using a
10 parallax image string which was obtained by image capturing and/or computer graphics, it has been necessary to ensure for various parameters required at the time of shooting the images and/or creating by the computer graphics to be coordinated with various parameter
15 required at the time of printing thereof.

However, because setting of these parameters required at the time of image shooting and/or creating by computer graphics and at the time of printing thereof is performed independently therebetween, there has been such
20 a problem that their setting was complicated and time consuming, and that without knowledge of these parameters, a correct and optimum stereoscopic image cannot be obtained.

Therefore, it has been desired to provide for a
25 holographic stereogram image capturing (shooting) device, a method thereof, an image producing device and a method thereof, in which the above-mentioned various parameters can be automatically set up, a sequence (string) of parallax images can be formulated easily, in a short
30 period of time, and further which can contribute to provision of a holographic stereogram that is free from

distortion and blurring.

An imaging device according to one aspect of the invention is an image capture device for capturing images of an object and for forming a sequence (string) of
5 parallax images comprising a plurality of image data containing parallax information. The image capture device is provided with a controller for enabling to capture the images of the object by moving its viewing point (shooting point) along a translation track on the
10 basis of a time spatial parameter indicating time and/or spatial information read out from an external device. This time spatial parameter is required at the time of its image capturing.

The image capturing device embodying the present
15 invention described above, under control of the controller, reads in a desirable time spatial parameter from the outside, captures the images of the object on the basis of this time spatial parameter, and accordingly forms a parallax image string.

A method of image capturing according to one aspect
20 of the present invention, for enabling to capture the images of an object with an image capturing device and to generate a parallax image string including a plurality of image data containing parallax information, is comprised
25 of the steps of: shooting images of the object by moving a viewing point of the image capturing device along a translation motion track on the basis of a time spatial parameter indicative of time and/or spatial information read in from the outside, which information being
30 necessary for shooting the images, and accordingly forming the parallax image string.